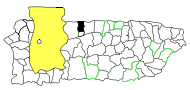
UPJOHN FACILITY
PUERTO RICO
EPA ID# PRD980301154



EPA REGION 2
CONGRESSIONAL DIST. 01
Barceloneta County
Barceloneta

Other Names:
Upjohn Manufacturing Company
Carbon Tet. Spill

Site Description

The 2-acre Upjohn Facility site contains a pharmaceutical manufacturing plant. In 1982, approximately 15,300 gallons of waste material, including carbon tetrachloride, leaked from an underground storage tank on the site. Six wells were sampled for contamination shortly after the leak was detected; four were taken out of service and one on the adjacent A.H. Robins (now Merck) property was commissioned as a recovery well. The population affected by the contaminated wells was given alternative water supplies and subsequently, the company installed a replacement well and connected one area to the public water system. Upjohn also installed 22 groundwater monitoring wells. In 1984, the tank farm area of the facility was covered with a fiberglass-reinforced concrete pad to prevent rainwater from seeping into the ground. The company installed an extraction well downgradient of the spill area to intercept the majority of the contaminated groundwater before it left the site. In addition, 19 vacuum extraction wells were employed to withdraw carbon tetrachloride from the soil. More than 12,000 gallons of carbon tetrachloride have been removed from the soil and groundwater. Upjohn ceased all use of carbon tetrachloride by 1986. The Upjohn facility is located in a sparsely populated area. Two communities, Tiburones and Garrochales, with a population of approximately 3,000 people, are directly affected by the site. The island's largest aquifer is underneath the site and supplies drinking water to 12,000 people. In addition, the aquifer discharges to a wetland area that supports a large aquatic and bird population. The Rio Grande de Arecibo and Rio de Manati are located along the borders of the site.

Site Responsibility: This site is being addressed through Federal and potentially responsible party's actions.

NPL LISTING HISTORY
Proposed Date: 09/01/83
Final Date: 09/01/84

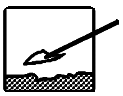
Threats and Contaminants

Groundwater and soil at the site are contaminated with carbon tetrachloride and its degradation products from Upjohn's former manufacturing process wastes. Metals detected in the groundwater are believed to result from contamination originating from other local industries and development of the stainless steel monitoring wells. People who drink or come in contact with the water from the wells tapping the aquifer may be at risk. The aquifer discharges into wetlands, but the risk to aquatic and terrestrial wildlife is expected to be low based on estimates of existing and future concentrations of contaminants in the environment.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status



Immediate Actions: Upjohn conducted a study of the site in 1983 and performed the actions described earlier, including covering some areas and installing extraction wells to remove contaminants from soil and groundwater. However, EPA determined that additional measures were needed to ensure that the site will not pose a future threat to human health or the environment.

Entire Site: In 1988, EPA selected a remedy to clean up the site by: (1) constructing a new public water supply well to replace the Garrochales #3 well; (2) continuing to pump the groundwater using the existing extraction wells, treating the contaminated water by air-stripping, and discharging the treated water into a sinkhole on the Upjohn property; (3) adding more extraction wells if the others prove successful in removing contamination; (4) long-term monitoring of the site to ensure the remedy is effective; and (5) re-evaluating the site within 5 years to determine whether remedial operations need to be continued or modified.

The Garrochales #3 replacement well was drilled in March 1992, the design of the hook-up into the public water supply was approved by PRASA in May 1994, and the replacement well became operational in December 1995. Upjohn has been pumping, treating, and monitoring the contaminated groundwater since the release of carbon tetrachloride in 1982. EPA approved the design of the expanded pump and treat system in September 1993. Upjohn constructed and tested the first phase

beginning in February 1994. EPA approved plans for the second phase of construction in January 1996. The second phase was completed and tested. On September 9, 1998, EPA documented that construction was complete and that the remedy was operational and functional. EPA approved the Operation and Maintenance Manual for the ground water extraction and treatment system on January 15, 1999.

Site Facts: In 1987, the EPA and Upjohn entered into a Consent Order to perform studies on the site. In 1989, the EPA issued a Unilateral Administrative Order requiring Upjohn to design and conduct the cleanup remedies selected by the EPA in 1988.

Cleanup Progress 

The groundwater extraction and treatment process, which began as an immediate action, as well as the removal of contaminants from the soil, have greatly reduced the potential for exposure to hazardous substances at the Upjohn site. Groundwater treatment continues to reduce contamination levels, so the site can meet established health/ecological standards.

EPA issued a Five-Year Review Report of site conditions on September 9, 1998. In the report, EPA concluded that the remedy, as implemented at the site, continues to be protective of human health and the environment. The next Five-Year Review will be conducted by September 2003. On September 9, 1998, issued a Preliminary Close-Out Report for the site. The remedy will continue to be operated, maintained, and monitored until the cleanup standard for carbon tetrachoride in ground water is attained.

Repositories
Office of the Mayor, Municipal Building, Barceloneta, Puerto Rico
U.S. EPA Caribbean Environaltal Protection Division, 1492 Ponce de Leon Avenue, Suite 417, Santurce, Puerto Rico 00907-4127